Exercise 1 Let f be a function defined as follows.

$$f(x) = \begin{cases} x^2, & x < 0 \\ x, & x \ge 0 \end{cases}$$

(a) Compute f(1).

$$f(1) = \boxed{1}$$

(b) Compute f(-1).

$$f(-1) = \boxed{1}$$

(c) The calculations in parts (a) and (b) above show that f is

Multiple Choice:

- (i) neither even nor odd.
- (ii) even but not odd.
- (iii) odd but not even.
- (iv) both even and odd.
- (v) not odd, but f may not be even. \checkmark
- (vi) not even, but f may not be odd.
- (d) Compute f(2).

$$f(2) = 2$$

(e) Compute f(-2).

$$f(-2) = \boxed{4}$$

(f) The calculations in parts (d) and (e) above show that f is

Multiple Choice:

- (i) neither even nor odd. ✓
- (ii) even, but not odd.
- (iii) odd, but not even.
- (iv) both even and odd.
- (v) The calculations do not say anything about whether f is even or odd.